

Amendments to the Claims

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently amended) A process for the synthesis of cumene hydroperoxide, comprising the step of ~~oxidating~~ oxidizing cumene to cumene hydroperoxide in a liquid phase in the presence of an ~~oxidating~~ oxidizing agent and of a basic ~~medium~~ resin ~~insoluble and stable in the reaction environment~~, said basic resin ~~medium~~ ~~being such as not to release~~ releasing inorganic cations to the reaction environment.

2. (Original) A process according to claim 1, where the oxidizing agent is oxygen in pure form or in a mixture with other gases, and is preferably air.

3. (Original) A process according to claim 1, where said cumene to cumene hydroperoxide oxidizing process is run under substantially anhydrous conditions.

4. (Cancelled)

5. (Currently amended) A process according to claim 1 ~~[[4]]~~, in which said basic resin is a pyridinic resin.

6. (Currently amended) A process according to claim 5, where said pyridinic resin is ~~chosen~~ selected from the group ~~comprising~~ consisting of reticulated poly-4-vinylpyridine (a polymer of 4-ethenylpyridine with diethenylbenzene, CAS RN 9017-40-7), a high-

porosity reticulated poly-4-vinylpyridine, and a polymer of 4-ethenylpyridine with diethenylbenzene and ethenylethylbenzene quaternarized with methyl chloride.

7. (Cancelled)

8. (Currently amended) A process according to claim 1, wherein said basic ~~medium~~ resin is used in quantities ~~comprised~~ between 0.1 g and 60 g of basic ~~medium~~ resin for each kg of cumene, preferably between 10 and 25 g of basic ~~medium~~ resin for each kg of cumene.

9. (Original) A process according to claim 1, wherein said oxidation reaction is run at a temperature comprised between 60°C and 150°C up to the point when the conversion of the cumene to hydroperoxide is between 5% and 40%, preferably between 20% and 25%.

10. (Original) A process according to claim 9, wherein said oxidation reaction is run at temperatures comprised between 90°C and 115°C and for reaction times comprised between 30 minutes and 10 hours, preferably between 1 and 6 hours.

11. (Original) A process according to claim 1, wherein said oxidation reaction is run at relative pressures comprised in the range from 0.5 and 10 bar.

12. (Original) A process according to claim 1, wherein said oxidation reaction is run in two or more reactors in series, preferably in three reactors in series, operating at different

temperatures decreasing from the first to the last reactor.

13. (Original) A process according to claim 12, wherein the reaction temperature in said first reactor is about 115°C and in said last reactor is about 90°C, and where the remaining oxidation reactors operate at intermediate temperatures.

14. (Currently amended) A process according to claim 1, wherein said basic ~~medium~~ resin is contained in one or more baskets immersed in anyone of said oxidation reactor or reactors in such a manner that said basic ~~medium~~ resin is in contact with the reaction environment.

15. (Currently amended) A process according to claim 1, wherein said process comprises a concentrating phase of the reaction mixture exiting from said ~~oxidating~~ oxidizing phase for the purpose of separating unreacted cumene from the cumene hydroperoxide product.

16. (Currently amended) A process according to claim 15, wherein said concentrating phase is operated in a direct succession to said ~~oxidating~~ oxidizing phase.

17. (Original) A cumene hydroperoxide obtainable according to the process according to claim 1, characterized in that it is free of inorganic cations.

18. (Original) A composition containing cumene hydroperoxide as a main component, characterized in that it is free of inorganic cations.

19. (Original) A composition according to claim 18, in which the dimethylphenylcarbinol content is lower than 2% by weight, preferably lower or equal to 1.5% by weight.

20. (Currently amended) A process for the synthesis of phenol and ~~aceton~~ acetone from cumene, comprising a ~~step of~~ step of synthesis of cumene hydroperoxide according to claim 1.